Site Map

Excellence in Public Educational Facilities – Sitemap*

Preface and Introduction - Excellence in Public Educational Facilities

1. Creating Legacy Facilities [Introduction]
   - 1.1 *Schools as Centers of Community*
   - 1.2 *Essential Facilities*
   - 1.3 *Universal Design*
   - 1.4 *Community Involvement*
   - *1.5 Public Art*

2. Efficiency & Cost-Effectiveness in Design [Introduction]
   - 2.1 *Design Guidelines*
   - 2.2 *Value Engineering*
   - 2.3 *Budgeting*
   - 2.4 *Life-Cycle Costing*
   - 2.5 *Project Delivery Alternatives*
   - 2.6 *CHPS/LEED*

3. Planning & Teamwork for Success [Introduction]
   - 3.1 *Field Act*
   - 3.2 Commissioning
   - 3.3 *Funding Options*
   - 3.4 Site Selection
   - 3.5 Demographic Analysis
   - 3.6 Educational Specifications
   - 3.7 *The Big Picture*
   - 3.8 *District-wide Master Plan*
   - 3.9 *Team Building*
   - 3.10 *Construction 101*

4. Design to Maximize Student Performance [Introduction]
   - 4.1 *Neuroscience*
   - 4.2 *Lighting*
   - 4.3 *Acoustics*
   - 4.4 *Indoor Air Quality*
   - 4.5 *Color*

5. New Directions in School Facilities [Introduction]
   - 5.1 *High-Performance Schools*
   - 5.2 Non-Conforming Facilities
   - 5.3 *Charter Schools*
   - 5.4 *Joint Use*
   - 5.5 *Classroom Interiors*

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Introduction 1

Excellence in Public Educational Facilities

Creating Legacy Facilities

Introduction

Buildings have always been about more than just shelter. As society has evolved, so have the places of government, commerce, worship, and recreation used to express the ambition and identity of our civilization. These legacy facilities resonate with the values of the community as an enduring testament to our shared identity. They reflect, now and for centuries into the future, the greatest accomplishments within our capacity.

In California, school design and construction are fraught with obstacles to achieving the sort of legacy facilities we might envision. This is no excuse for mediocrity. Today we have an unparalleled opportunity to design schools that anchor and enhance their communities, and that visibly improve the lives of their occupants.

This section is intended to assist policymakers in creating school facilities that will endure as vibrant, productive, sustainable places of learning, evocative of the very communities they serve.

Introduction 2

Excellence in Public Educational Facilities

Efficiency & Cost-Effectiveness in Design

Introduction

Over the past several years California has seen a tremendous increase in the cost of construction. Budgets for public school facilities has never been substantial and, as has been documented by CASH, the grant amounts for the School Facility Program, established in 1998, are significantly less than that of the preceding funding program, the Lease Purchase Program. All these factors have forced school districts and their architects to find new methods to design more cost effective schools. At the same time energy costs have increased and the State's inventory of school facilities has increased in age with increasing needs for maintenance and modernization. This has put increasing pressure on school district budgets leading districts to seek solutions to long-term facilities costs.

In this section you will find information on cost effective design and how school districts, in California and across the country, are stretching their construction dollars. This includes the consideration of operating and maintenance costs through life-cycle cost analysis. The realization that the construction costs are only a small percentage of the total cost of the facilities has led many school districts to consider a higher first cost to reduce these long term costs.

There is an increased awareness of sustainability and the impact we are having on the environment. The Collaborative for High Performance Schools has shown how the environmental quality can impact absenteeism, illness and overall student and teacher performance. And an increasing number of school districts are choosing facility designs that will decrease the impact on the environment. You will find information on sustainability and 'green' architecture in this section. The impact of sustainable design on student performance will be covered in other sections.

Project delivery methods can also have an impact on the cost of the construction project. California law limits the types of delivery methods available to school districts, however, a number of methods common in the commercial construction sector are being considered for school projects. You will find information in this section on some of the project delivery methods that have been introduced to the school construction market and how they may impact they may have on school construction budgets.

Introduction 3

Excellence in Public Educational Facilities

Planning and Team Work for Success

Introduction

Waiting for information from JoAnn

Introduction 4

Excellence in Public Educational Facilities

Design to Maximize Student Performance

Introduction

Student performance is the most critical measure of the quality of our schools. Here, too, the design of educational facilities plays a role and must not be approached arbitrarily.

In recent years, increasing attention has been paid to the relationship between the built environment and its occupants. Much research remains to be done, but much is already known about the role of lighting, acoustics, air quality, and color on human behavior. In San Diego, architects and neuroscientists are now examining the exact mechanics of these relationships and beginning to apply their findings. This sort of information is invaluable for school facilities, in which occupants' welfare is at the heart of design.

While numerous factors affect student performance, this section will focus on environmental conditions directly affecting learning where it takes place: the classroom. Within this space, various physical conditions may aid or obstruct students' academic progress.

This section discusses five such conditions, providing an introduction to the advantages of well conceived spaces for student performance.

Introduction 5

Excellence in Public Educational Facilities

New Directions in School Design

Introduction

We have long believed that environment influences behavior. We are now learning that even immediate physical surroundings shape our character and conduct. The design of school facilities therefore becomes as important as what is taught inside them, and our challenge as planners becomes finding the design solution best suited to enhancing individual performance within a diverse group of students.

We have collected some data on sensitivity to daylight, noise, and color, and on how these environmental conditions affect achievement (see Design to Maximize Performance [hyperlink to section]). We have yet to complete conclusive studies on spatial arrangements, but certain recent designs [hyperlink to examples in bibliography?] are now testing the effect of innovative classroom shapes and outdoor environmental integration on academic performance. These and other experimental approaches to design suggest new directions for planners' consideration.

Our schools are entry-points into an increasingly competitive and fast-paced world. As such, they must provide learning environments supportive of the physical, social, and spiritual needs of students and teachers. They must reflect our developing knowledge of design's effects upon health, productivity, and cognitive function. The articles in this section will address recent developments in these issues, highlighting past studies and emerging discussions to improve our future school facility standards.

Introduction 6

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Asset Management

Introduction

The real, long-term value of construction is an often forgotten fundamental of facilities development. Considerable first costs tend to overwhelm planners' interests in creating buildings of sustainable quality, even though these first costs pale in comparison to life-cycle expense.

For buildings to continue serving their purpose, they must be well designed, constructed, and maintained. As with any asset, however, neglect carries a steep price. Deferred maintenance and malfunctioning equipment quickly create systemic liabilities requiring expensive, large-scale resolutions.

The vast majority of today's educational facilities are developed to minimize first costs alone, under the assumption that construction and equipment will last an average amount of time with a minimal number of problems. With the cost of construction rising and budgets growing tighter, this approach is understandable, but it cannot be sustained in the long term.

This section introduces several methods of maintaining and protecting the collective investment in educational facilities. The goal is sustainable improvements in cost and quality, for today's schools and tomorrow's.